

SPECIALIZED TRAINING PROGRAMS AND COURSES APPROVED BY THE
VIRGINIA BOARD FOR
WATERWORKS AND WASTEWATER WORKS OPERATORS AND ONSITE
SEWAGE SYSTEM PROFESSIONALS

GENERAL INFORMATION

1. The following programs have been specifically approved by the Board for Waterworks and Wastewater Works Operators and Onsite Sewage System Professionals (Board) to conduct training courses that may be substituted for some of the experience required to qualify to sit for the examination for a waterworks or wastewater works operator license.
2. The Board uses the term "TC" for training credits. TC's differ from Continuing Professional Education (CPE) in that TC's are used to substitute for experience requirements for *initial licensure* and must be approved by the Board in a formal process. "CPE" is education that is used by *existing licensees* to satisfy the renewal requirement for a particular license and is not approved by the Board. CPE content is required to be limited to those items covered by the Board's examination for the relevant license for which CPE is completed.
3. The titles of the approved courses offered by each sponsor are listed along with the number of Training Credits (TC's) awarded for successful completion of each course. One training credit is equal to one month of experience substitution. No licensee may substitute more than 50% of the total experience required for any license applied for per 18VAC160-20-90 D 3 of the Board's regulations.
4. No credit will be given for any course that is not on the current list. **Exception:** Courses provided by federal agencies, state agencies, or by institutions, schools, and universities approved by the State Council of Higher Education for Virginia, for which continuing education units are awarded, may qualify for TC's without prior Board approval. Those courses may not appear on this list. To receive credit for those courses, a detailed hour-by-hour course schedule along with evidence of course completion must be provided with the application.
5. All certificates under the approved program may be used again to substitute for experience in a higher class license.
6. No experience substitution is allowed for Class 4, Class 5, or Class 6 licenses per 18VAC160-20-90 D 3 of the Board's Regulations.

For more information please contact:

Michele L. Atkinson, Board Administrator
9960 Mayland Drive, Suite 400
Richmond, VA 23233
(804) 367-1795

Alexandria Sanitation Authority

For more information please contact: Jerry Barrett
1500 Eisenhower Avenue
Alexandria, VA 22314
(703) 549-3381

<u>Course</u>	<u>TC's</u>	<u>Date of Approval</u>
Biological Nutrient Removal (BNR) Overview	0.3	June 20, 2002
BNR and Methanol	0.3	June 20, 2002
Centrifuge Thickening	0.3	June 20, 2002
Filtration System	0.3	June 20, 2002
Primary Effluent Pumping	0.3	June 20, 2002
Process Air	0.3	June 20, 2002
Solids Overview	0.3	June 20, 2002
SSTS, RAS, and WAS Systems	0.3	June 20, 2002

American Association of Water and Wastewater Professionals (AAWWP)

For more information please contact: Mr. Dennis Campbell
502 Research Road
Richmond, VA 24236
(540) 915-6293

<u>Course</u>	<u>TC's</u>	<u>Date of Approval</u>
Wastewater Math	0.4	June 8, 2010

American Water Works Association (AWWA), Virginia Section

For more information please contact: Ms. Sherry L. Williams
AWWA-Virginia Section-AWWA
Lynchburg, VA
(804) 867-9171

<u>Course</u>	<u>TC's</u>	<u>Date of Approval</u>
Fire Hydrant & Water Main Maintenance	0.75	April 6, 1995

California State University (Sacramento)

For more information please contact:

Mark P. Mooshian, Assistant Director
 California State University, Sacramento
 Office of Water Programs
 6006 J Street
 Sacramento, CA 95819-6025
 (919) 278-6142
 (916) 278-5959 (Fax)
 E-mail: wateroffice@csus.edu
 Website: www.owp.csus.edu

<u>Course</u>	<u>Max. Allowable TC's</u>			<u>Date of Approval</u>
	Class I	Class II	Class III	
Advanced Waste Treatment	4.0	3.0	2.0	April 4, 1996
CE28A – Water Treatment Plant Operation I ²	1.0	2.0	4.0	June 21, 2006
CE28B – Water Treatment Plant Operation II ²	1.0	2.0	4.0	June 21, 2006
CE29 – Small Water System Operation and Maint. ²			2.0	June 21, 2006
Industrial Wastes, Volume I	4.0	2.0	1.0	April 4, 1996
Industrial Wastes, Volume II	4.0	2.0	1.0	April 4, 1996
Manage for Success: Effective Utility Leadership Practices	1.7	1.7	1.7	June 21, 2006
Operation & Maint. of Wastewater Collection Systems, Vol. I			2.0	April 4, 1996
Operation & Maint. of Wastewater Collection Systems, Vol. II		1.0	2.0	April 4, 1996
Operation of Wastewater Treatment Plants, Vol. I	1.0	2.0	4.0	April 4, 1996
Operation of Wastewater Treatment Plants, Vol. II	1.0	2.0	4.0	April 4, 1996
Pretreatment Facility Inspection				April 4, 1996
Small Wastewater System Operation and Maint., I	2.0	2.0	2.0	June 21, 2006
Small Wastewater System Operation and Maint., II	2.0	2.0	2.0	June 21, 2006
Small Water System Operation and Maintenance			2.0	April 4, 1996
Small Water Systems – WAT702A- Water Sources and Treatment ¹			0.4	June 21, 2006
Small Water Systems – WAT702B – Wells ¹			0.4	June 21, 2006
Small Water Systems – WAT702C – Small Water Treatment Plants ¹			0.4	June 21, 2006
Small Water Systems – WAT702D – Disinfection ¹			0.4	June 21, 2006
Small Water Systems – WAT702E – Water Rates/Safety ¹			0.4	June 21, 2006
Small Water Systems – WAT702F – Laboratory ¹			0.4	June 21, 2006
Small Water Systems Video Information Series		0.6	1.2	June 21, 2006
Treatment of Metal Wastestreams	2.0	1.0	0	April 4, 1996
Utility Management	0.1	0.1	0.1	June 21, 2006
Water Distribution System Operation and Maint.		1.0	2.0	April 4, 1996
Water Systems Operation and Maint. Video Training		1.0	2.0	June 21, 2006

Series

Water Treatment Plant Operation, Volume I	1.0	2.0	4.0	April 4, 1996
Water Treatment Plant Operation, Volume II	1.0	2.0	4.0	April 4, 1996

¹ *These six courses are World Wide Web versions of the components of "Small Water System Operation and Maintenance". Completion of all six courses earns a total of 2.4 TC's. As these six courses cover the same material as "Small Water System Operation and Maintenance", any person who completes "Small Water System Operation and Maintenance" and all six 0.4 credit courses will only be granted a maximum of 2.4 TC's total.*

² *These three courses are versions of "Water Treatment Plant Operation, Volumes I & II", and "Small Water System Operation and Maintenance" with an available on-line examination. Any person submitting a certificate for the "Water Treatment Plant Operation Specialist Certificate Program" indicating the completion of all three courses shall be eligible for the TC's earned in each course. The maximum allowable TC's will be based upon the class of licensure being applied for.*

Central Carolina Technical College/Environmental Training Center

For more information please contact:

Elizabeth Williams
 SC Environmental Training Center
 Central Carolina Technical College
 506 N. Guignard Drive
 Sumter, SC 29150
 (803) 778-6656
etc@cctech.edu

<u>Course</u>	<u>TC's</u>	<u>Date of Approval</u>
Biological Wastewater Treatment Operators Short School (Levels A, B, C, D)	2.0	February 9, 1994
Physical/Chemical Wastewater Treatment Plant Operators Short School (Levels A, B, C, D)	2.0	February 9, 1994
Water Distribution Systems Operation and Maintenance Short School (Levels A, B, C, D)	2.0	February 9, 1994
Water Treatment Plant Operators Short School (Levels A, B, C, D)	2.0	February 9, 1994

Control Equipment Company

For more information please contact: 1019 Campbell Avenue SE
Roanoke, Virginia 24013
(800) 572-3220 or (434) 973-5111

<u>Course</u>	<u>TC's</u>	<u>Date of Approval</u>
Sodium Hypochlorite Disinfection	0.4	September 19, 2002
UV Disinfection	0.4	September 19, 2002

David H. Paul, Inc.

For more information please contact: Shawntay Wolfe-Martinez
David H. Paul, Inc.
1206 East 20th
Farmington, NM 87499
(505) 326-3431

-Courses approved December 21, 2000
-Correspondence Study Courses (Refer To Chart Below)

Course No.	Course Title	Class 1	Class 2	Class 3
INWT 145	Math, Chemistry, Biology			1.0
INWT 146	Reverse Osmosis	1.0	1.0	2.0
INWT 147	R O Troubleshooting	0.5	1.0	2.0
INWT 160	High Purity Water from Ion Exchange			1.0
INWT 161	Ion Exchange Operation	1.0	1.0	1.0
INWT 162	Maintaining High Purity			
INWT 255	Pretreatment Troubleshooting	0.5	0.5	1.5
INWT 256	Scaling and Fouling Troubleshooting	1.5	1.5	2.0
INWT 257	Advanced R O Monitoring/Cleaning	1.5	1.5	2.0
INWT 270	Feedwater & Pretreatment			1.0
INWT 271	Ion Exchange Troubleshooting	1.0	1.5	2.0
INWT 272	Post Ion Exchange	0.5	0.5	1.5

FABL Environmental Regulatory Specialists, Inc.

For more information please contact: Regina B. Meehan, President
 1102 Roe Ford Road
 Greenville, SC 29617
 (864) 246-6668
www.environmental-training.com

<u>Course</u>	<u>TC's</u>	<u>Date of Approval</u>
Wastewater Clarifications, BOD5	1.0	October 29, 1999
Wastewater Clarifications, TSS	0.5	October 29, 1999
Wonderful World of Widgets, Materials Flow Balance Exercise	1.0	October 29, 1999

Hampton Roads Sanitation District Apprenticeship Program **(HRSD)**

Operator experience credit may be given for grades of "C" or better for those plant and maintenance operators enrolled in the HRSD apprenticeship program. The Virginia Board has approved the following training courses and their Training Credits (TC's).

For more information please contact: Debbie Crofford
 1434 Air Rail Avenue
 Virginia Beach, VA 23455
 (757) 460-4226

<u>Course</u>	<u>TC's</u>	<u>Date of Approval</u>
Activated Solids I	2.1	Dec 10, 1992-Sep 6, 2010
Activated Solids II	2.1	Dec 10, 1992-Sep 6, 2010
Activated Solids III	2.1	Dec 10, 1992-Sep 6, 2010
Activated Solids I	3.0	September 7, 2010
Activated Solids II	3.3	September 7, 2010
Bearings and Lubrication	2.0	December 10, 1992
Gearboxes	2.1	December 10, 1992
Incineration	2.0	December 10, 1992
Industrial Waste & Regulations	2.1	Mar 9, 1992-Sep 6, 2010
Industrial Waste Regulations (Online)	2.1	October 3, 2012
Instrumentation & Controls	2.1	December 10, 1992
Introduction to Wastewater Treatment/Maintenance I	2.0	December 10, 1992
Mechanical Drives, Seals, & Alignment	2.1	December 10, 1992
Valves, Pipe & Pipefitting I	2.1	March 19, 1992
Valves, Pipe & Pipefitting II	2.0	March 19, 1992
Preliminary Treatment & Odor Control	2.1	December 10, 1992
Primary Treatment and Chemical Addition	2.1	December 10, 1992
Pumping Systems I	1.6	December 10, 1992

Pumping Systems II	2.1	December 10, 1992
Shop Prints & Schematics	2.1	March 19, 1992
Sanitary Chemistry I	2.0	December 10, 1992
Sanitary Chemistry II	2.0	December 10, 1992
Solids Dewatering	2.1	December 10, 1992
Solids Thickening & Digestion	2.0	December 10, 1992
Stream Ecology	2.1	December 10, 1992
Stream Ecology (Online)	2.1	March 22, 2013
Leadership & Supervision I	2.1	March 19, 1992
Leadership & Supervision II	2.1	March 19, 1992
BNR & Tertiary Treatment	2.1	December 10, 1992
Disinfection	2.0	December 10, 1992
Wastewater Treatment I	2.1	December 10, 1992
Wastewater Treatment II	2.1	December 10, 1992
Wastewater Treatment III	2.0	December 10, 1992
Treatment Plant Math I	2.1	December 10, 1992
Treatment Plant Math II	2.1	December 10, 1992
Treatment Plant Math III	2.1	December 10, 1992

Indiana State University - Office of Independent (Correspondence) Study

For more information please contact: S. R. Wiersteiner, Ph.D.
Indiana State University
Office of Independent (Correspondence) Study
Terre Haute, IN 47809

<u>Course</u>	<u>TC's</u>	<u>Date of Approval</u>
Class I	1.2	April 4, 1996
Class II	0.75	April 4, 1996
Class III	0.3	April 4, 1996

John Tyler Community College

For more information please contact: Greg Longacre, Director of Continuing Edu.
13101 Jefferson Davis Highway
Chester, VA 23831
(804) 796-4111

<u>Course</u>	<u>TC's</u>	<u>Date of Approval</u>
Drinking Water Bacteriological Laboratory Workshop	2.0	July 20, 1994
Small Water Systems Operations (Classes III, IV, V)	4.0	September 23, 1993

Lewis and Zimmerman Associates, Inc.

For more information please contact: April Marshall
6110 Executive Boulevard, Suite 512
Rockville, MD 20852
(301) 984-9590

<u>Course</u>	<u>TC's</u>	<u>Date of Approval</u>
Wastewater Training Program	8.0	October 9, 1997

Logical Concepts DBA OmniSite

For more information please contact: Rebekah Pinkham
494 S. Emerson Ave., Suite E
Greenwood, IN 46143
(317) 885-6330

<u>Course</u>	<u>TC's</u>	<u>Date of Approval</u>
Technical Training	1.25	June 15, 2012

Note: This course is approved for waterworks operators and wastewater works operators.

Maryland Center for Environmental Training

For more information please contact: Karen Brandt
8730 Mitchell Road
La Plata, MD 20646
(301) 934-7500

<u>Course</u>	<u>TC's</u>	<u>Date of Approval</u>
Electrical Troubleshooting	0.7	March 11, 2003

Michigan State University (MSU)

For more information please contact: Virgil Langworthy
Michigan State University
East Lansing, MI 48824-1047
(517) 321-6074

<u>Course</u>	<u>TC's</u>	<u>Date of Approval</u>
Maintenance Management in Water and Wastewater Field	3.0	September 23, 1993

Supervisory Management in Water and Wastewater Field	3.0	September 23, 1993
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Millennium Science & Engineering, Inc.

For more information please contact: Ajit Louis, Training Coordinator
 Millennium Science & Engineering, Inc.
 1364 Beverly Road, Suite 302
 McLean, VA 22101
 (703) 734-1090

<u>Course</u>	<u>TC's</u>	<u>Date of Approval</u>
Introduction to PLCs	0.5	March 9, 2004

Operator Certification Training, Inc.

For more information please contact: Katie L. Lewis, Administrator
 Operator CERTIFICATION Training, Inc.
 180 West Clarendon Street
 Gladstone, OR 97027
 (503) 650-2410

<u>Course</u>	<u>TC's</u>	<u>Date of Approval</u>
Disinfection of Public Water Supplies Workshop	0.65	October 29, 1998
Mathematics for Water Plant Operators Workshop, Grades I-III	1.3	October 29, 1998
Water Treatment Technology Review: Groundwater and Surface Water Plant Operations	0.65	October 29, 1998

Penn State University Conferences and Institutes

For more information please contact: Jeanne Fudrow
 118 Keller Building
 University Park, PA 16802
 (814) 863-6106

<u>Course</u>	<u>TC's</u>	<u>Date of Approval</u>
Activated Sludge	0.6	December 13, 2001
BOD and Metabolism	0.3	June 20, 2002
Denitrification	0.3	June 20, 2002
Nitrification	0.3	June 20, 2002
Settleability Problems and Loss of Solids	0.3	June 20, 2002

Peter L. LaMontagne

For more information please contact: Peter L. LaMontagne, PE
190 North Tamenend Avenue
New Britain, PA 18901
(215) 348-7879

<u>Course</u>	<u>TC's</u>	<u>Date of Approval</u>
Cost Effective Centrifugation	0.6	March 8, 2004

Spotsylvania Vocational Center

For more information please contact: Lee Browning, Apprenticeship Coordinator/Asst. Principal
6713 Smith Station Road
Spotsylvania, VA 22553
(703) 891-1784

<u>Course</u>	<u>TC's</u>	<u>Date of Approval</u>
Advanced Waterworks Operator's License Review	2.3	October 6, 1994
Basic Waterworks Operator's License Review	2.3	October 6, 1994

Technical Association Of The Pulp And Paper Industry **(TAPPI)**

For more information please contact: Karen Ventri
15 Technology Parkway
Norcross, GA 30092
(404) 446-1400

<u>Course</u>	<u>TC's</u>	<u>Date of Approval</u>
Activated Sludge Plant Operations	1.4	February 9, 1994
Activated Sludge Short Course	0.6	July 20, 1994

Tyson Foods, Inc.

For more information please contact: Herb Suggs
2210 Oaklawn
P.O. Box 2020
Springdale, AR 72765
(417) 235-3104

<u>Course</u>	<u>TC's</u>	<u>Date of Approval</u>
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Virginia Department of Environmental Quality (DEQ)

(Formerly Virginia State Water Control Board)

For more information please contact: Wayne Staples, Program Manager
 Operator Training & Assistance
 Water Division
 Department of Environmental Quality
 629 East Main Street
 Richmond, VA 23219
 (804) 698-4106

<u>Course</u>	<u>TC's</u>	<u>Date of Approval</u>
Advanced Wastewater Licensure Review	2.3	March 24, 1994
Activated Sludge Process Control, Part 1	2.0	March 24, 1994
Activated Sludge Process Control, Part 1 (Observations & Testing)	1.4	March 22, 2013
Activated Sludge Process Control, Part 2	2.0	June 22, 2004
Activated Sludge Process Control, Part 3 (Microscopic Examination)	1.4	March 22, 2013
Basic Lab Skills	1.0	March 7, 2007
Basic Wastewater Licensure Review	2.3	March 24, 1994
Chemical Oxygen Demand Workshop	0.5	October 3, 1996
D.O. & Biochemical Oxygen Demand Workshop	1.0	January 5, 1995
Introduction to Biological Nutrient Removal	1.2	September 13, 2006
Nutrient General Permit Reporting	0.3	December 4, 2008
Operator In-Service Training	0.5	March 24, 1994
Package Treatment Plant Operation Workshop	1.3	September 9, 2003
Sampling & Testing for Small Wastewater Treatment Plants	1.0	April 15, 1999
Total & Volatile Suspended Solids Sampling and Testing Workshop	0.5	July 11, 1996
Total Residual Chlorine & Ph Workshop	1.0	January 5, 1995
VPDES Permit Recordkeeping and Reporting	0.35	September 14, 2005
Wastewater Math for Operators	2.0	September 14, 2010
Wastewater Operator Correspondence Course	4.0	March 24, 1994
Wastewater Sampling & Testing, Ammonia & TKN Workshop	1.0	October 5, 1995
Wastewater Sampling & Testing: Ammonia Nitrogen	0.5	April 9, 1998
Wastewater Sampling & Testing Nitrate & Nitrite Nitrogen	1.0	June 24, 1999
Wastewater Sampling & Testing: Phosphorus	1.0	June 8, 2010

Virginia Department of Health (VDH) - Lexington Environmental, Health Engineering Field Office

For more information please contact: Mr. Dough Caldwell
Virginia Department of Health
Lexington Environmental Health
1311 Walker Street
Lexington, VA 24450
(703) 463-3892

<u>Course</u>	<u>TC's</u>	<u>Date of Approval</u>
Water Storage Tank Management Seminar	0.5	April 6, 1995

Virginia Rural Water Association

For more information please contact: Andy Crocker
2138 Sycamore Avenue
Buena Vista, VA 24416
(540) 261-7178
(540) 261-2465 (Fax)

<u>Course</u>	<u>TC's</u>	<u>Date of Approval</u>
Clean Water Act	0.6	June 15-16, 1993
Collection of Drinking Water Samples	0.3	January 8, 1998
Corrosion Control & Lead and Copper Rule	0.5	September 23, 1993
Cross-Connection & Backflow Prevention	0.4	July 20, 1994
Establishing a Preventive Maintenance Management Program	0.3	June 15, 2000
Gas Chlorination Operation, Management & Repair	0.5	September 23, 1993
Safe Drinking Water	0.5	July 21, 1993
Steel Storage Tank Inspection & Maintenance	0.5	October 5, 1995
Wastewater Works Licensing Examination Preparation	0.5	July 21, 1993
Waterworks Operator Licensing Examination Preparation	0.6	July 20, 1994

VPI Waterworks/Wastewater Works Operators Short School

For more information please contact:

Mark Anderson
Virginia Department of Health
Office of Drinking Water
109 Governor Street, Room 632
Richmond, VA 23219
(804) 864-7514
(804) 864-7520 (Fax)

OR

Wayne Staples, Program Manager
Operator Training & Assistance
Water Division
Department of Environmental Quality
629 East Main Street
Richmond, VA 23219
(804) 698-4106

<u>Course</u>	<u>TC's</u>	<u>Date of Approval</u>
Advanced Water Supply Operations (Year Three) ¹	3.0	July 21, 1993
Fundamentals & Recent Developments in Water Treatment ³	2.4	April 16, 1998
Introduction to Small Water Systems (Year One) ¹	3.0	July 21, 1993
Introduction to Wastewater Treatment (I) ²	3.0	July 21, 1993
Introduction to Water Surface Supply (Year One) ¹	3.0	July 21, 1993
Wastewater Treatment Plant Operation (II) ²	3.0	July 21, 1993
Wastewater Treatment Troubleshooting (III) ²	3.0	July 21, 1993
Water Treatment I (Introduction) ³	3.0	July 21, 1993
Water Treatment II (Intermediate) ³	3.0	July 21, 1993
Water Treatment III (Advanced) ³	3.0	July 21, 1993

¹ Indicates a training program sponsored by the Virginia Department of Health (VDH)

² Indicates a training program sponsored by the Virginia Department of Environmental Quality (DEQ) in conjunction with VPI Short School.

³ Indicates training program sponsored by VDH in conjunction with VPI Short School

Water Environment Federation

For more information please contact: Steven Wisdom
601 Wythe Street
Alexandria, VA 22314-1994
(703) 684-2400

<u>Course</u>	<u>TC's</u>	<u>Date of Approval</u>
Operations Training/Activated Sludge/Process Control	2.0	September 21, 2000
Operations Training/Pumps Operation and Maintenance	2.0	June 15, 2000
Operations Training/Solids Handling	1.5	March 21, 2002
Operations Training/Wastewater Treatment	4.0	June 15, 2000

Water Pollution Biology

For more information please contact: Michael H. Gerardi, Wastewater Biologist
196 Hemlock Lane
Linden, PA 17744
(570) 398-7260

<u>Course</u>	<u>TC's</u>	<u>Date of Approval</u>
A Correspondence Course in Wastewater Microbiology: Nitrification in the Activated Sludge Process	1.0	October 29, 1998
Wastewater Microbiology	0.4	March 22, 2001